

## **APPENDIX 8**

Pueblo of Isleta Proposed Amendments to Water Quality Standards.

# **PROPOSED AMENDMENTS to WATER QUALITY STANDARDS of PUEBLO OF ISLETA**

**BY**

**ENVIRONMENT DEPARTMENT  
PUEBLO OF ISLETA**

The following conventions are used throughout the proposal.

Language which is to be deleted will be found within brackets and struck-through. Example: [~~Delete this verbiage~~]

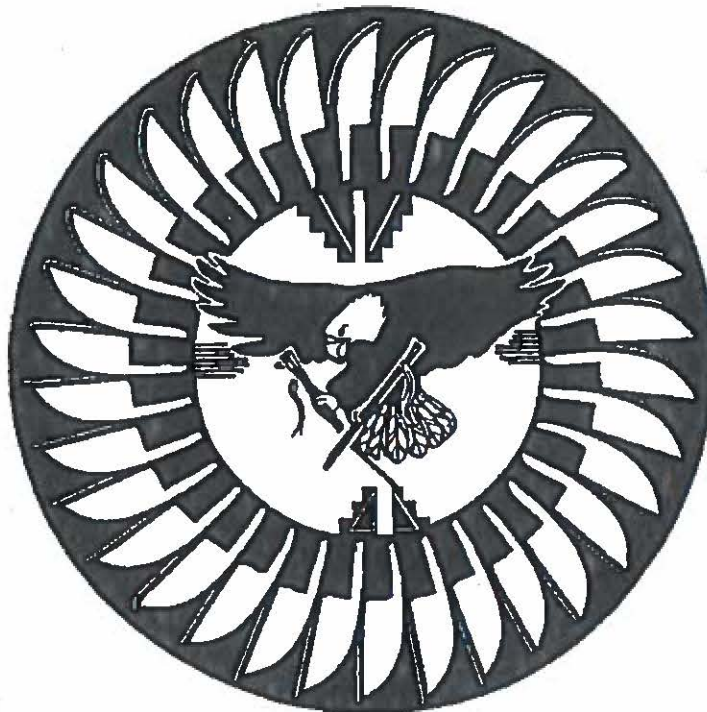
Language to be inserted will be italicized, bolded and underlined. Example: **Add this phrase**

# PUEBLO OF ISLETA

## SURFACE WATER QUALITY STANDARDS

First Adopted January 24, 1992, Tribal Resolution 92-14

Amended {date}, Tribal Resolution {Number}



(approved, passed, and adopted [~~February 11, 1992~~] {date})

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~~[\* — Words and terms defined in Section VII are designated in bold wherever used in the text of the "PUEBLO OF ISLETA Water Quality Standards." ]~~



1           SECTION I. Introduction, Authority, and Applicability

2           Pursuant to Section 518<sup>1</sup> of the Clean Water Act<sup>2</sup>, the Tribal Council  
3           of the PUEBLO OF ISLETA, a federally-recognized Tribe of Indians,  
4           hereby enacts the PUEBLO OF ISLETA Surface Water Quality Standards.

5           A.    The purposes of the PUEBLO OF ISLETA Surface Water Quality  
6           Standards are as follows:

- 7           1.    to [~~designate~~] identify the existing and attainable uses  
8           that are being designated for which the surface waters of  
9           the PUEBLO OF ISLETA shall be protected;  
10          2.    to prescribe water quality [~~standards~~] criteria  
11          (narrative and numeric) which shall be imposed in order  
12          to [~~sustain~~] fully protect the designated uses;  
13          3.    to assure that degradation of existing surface water  
14          quality does not occur; and  
15          4.    to promote the social welfare and economic  
16          well-being of the PUEBLO OF ISLETA.

17                These purposes shall be accomplished by incorporating the  
18                [~~standards~~] criteria set forth in the PUEBLO OF ISLETA  
19                Surface Water Quality Standards into the permitting and  
20                management process for point source dischargers and  
21                nonpoint source generators, by using those [~~standards~~]  
22                criteria to determine when a designated use is threatened or  
23                impaired, and by [~~using current~~] requiring the most efficient  
24                treatment technologies to control point sources and  
25                requiring implementation of effectual best management practices for  
26                nonpoint sources of pollution.

27          B.    The PUEBLO OF ISLETA Surface Water Quality Standards apply  
28                to all tribal surface waters, that is, all surface waters  
29                within the exterior boundaries of the PUEBLO OF ISLETA  
30                Indian Reservation, including water situated wholly or  
31                partly within, or bordering upon, the Reservation,  
32                whether public or private, except for private waters that  
33                do not combine with other surface waters.

34          C.    The PUEBLO OF ISLETA Surface Water Quality Standards are  
35                consistent with Section 101(a) (2) of the Clean Water Act  
36                (33 U.S.C. Section 1251(a) (2)), which declares that "it

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<sup>1</sup>       33 U.S.C. Section 1377 (enacted February 4, 1987).

<sup>2</sup>       33 U.S.C. Section 1251 et seq. (1948, as amended).

1 is the national goal that, wherever attainable, an  
2 interim goal of water quality which provides for the  
3 protection and propagation of fish, shellfish, and  
4 wildlife and provides for recreation in and on the water  
5 be achieved by July 1, 1983 ...." Primary contact  
6 ceremonial use, agricultural water supply use, fish  
7 culture use, and industrial water supply use are other  
8 beneficial uses of the PUEBLO OF ISLETA Tribal surface  
9 waters. [~~Provisions of t~~] The PUEBLO OF ISLETA Surface  
10 Water Quality Standards provide that contamination that  
11 may result from such uses shall not lower the quality of  
12 the water below what is required for recreation and  
13 protection and propagation of fish, shellfish, and  
14 wildlife.

15 D. There is hereby created the position of Tribal Water  
16 Quality Control Officer. The Tribal Water Quality Control  
17 Officer shall serve under the direction of the [~~Governor~~]  
18 Director of the Pueblo of Isleta's Environment Department [~~the Pueblo and~~  
19 ~~shall be appointed by the Governor, which appointment~~  
20 ~~shall be confirmed by the Tribal Council of the PUEBLO OF~~  
21 ~~ISLETA~~]. The Tribal Water Quality Control Officer shall  
22 seek to work in cooperation with the U.S. Environmental  
23 Protection Agency and other agencies of the federal  
24 government or of the State of New Mexico to insure attainment  
25 of the PUEBLO OF ISLETA Surface Water Quality Standards.

26 E. The antidegradation policy for Tribal surface waters and  
27 the procedures for implementing it are set forth in  
28 Section II herein and in the Implementation Plan referred  
29 to therein.

30 F. Pursuant to Section 303(c)(1) of the Clean Water Act (33  
31 U.S.C. Section 1313(c)), the PUEBLO OF ISLETA shall hold  
32 public hearings at least once each three-year period for  
33 the purpose of reviewing and, as appropriate, amending  
34 the PUEBLO OF ISLETA Surface Water Quality Standards. [~~The~~  
35 ~~Water Quality Standards shall be reviewed once every~~  
36 ~~three years following enactment.~~] Revisions shall  
37 incorporate relevant scientific and engineering advances.

38 G. The PUEBLO OF ISLETA shall issue and approve surface  
39 water designations for tribal waters and shall determine  
40 the suitability of bodies of water for recreational  
41 purposes.

42 H. [~~Standards~~] Criteria [particular] specific to a designated use  
43 shall be protected at all times and at [~~low~~] all flow  
44 rates. Where water diversion or drought result in flow rates of zero [~~this~~  
45 ~~low flow value is zero~~], all discharges shall meet  
46 [~~standards~~] the criteria for the most sensitive designated [uses]



-1 use for the receiving water body. For standing water bodies,  
2 ~~[standards]~~ criteria particular to a use shall be maintained  
3 whenever the water body is suitable for the use. The  
4 General Standards (Section III, below) shall be  
5 maintained at all times and shall apply to rivers, streams,  
6 lakes, reservoirs, canals, drains, ponds, springs, and  
7 wetlands, whether perennial, ephemeral, or intermittent  
8 in nature. The ~~[standards assigned to]~~ applicable criteria for  
9 a body of water shall be the most stringent ~~[standards]~~  
10 criteria required to fully protect ~~[all-uses]~~ the most sensitive use  
11 designated for that body of water. Artificial Reservoirs,  
12 constructed outside waters of the United States, used for water  
13 treatment are exempt from these standards, provided  
14 however, that the water released from any such reservoir  
15 must meet all ~~[meets]~~ the ~~[standards]~~ criteria that apply to  
16 the receiving body of water.

17 I. These surface water ~~[Water]~~ quality standards shall be the  
18 basis for managing discharges attributable to point and  
19 nonpoint sources of pollution. These surface water ~~[Water]~~  
20 quality standards are not used to control ~~[, and are not~~  
21 ~~invalidated by,]~~ natural background phenomena or acts of  
22 God.

23 J. In the event that monitoring of water quality identifies  
24 reaches where attainable water quality is less than what  
25 is required by the PUEBLO OF ISLETA Surface Water Quality  
26 Standards due to natural background conditions, then the PUEBLO OF  
27 ISLETA may modify the Surface Water Quality Standards to  
28 reflect actual attainability. Modification thereof shall  
29 be within the sole discretion of the PUEBLO OF ISLETA,  
30 but shall be subject to the provisions of the Clean Water  
31 Act, and shall be carried out in accordance with  
32 use-attainability analysis procedures as defined in the Code of  
33 Federal Regulations at Title 40 Section 131.10 (g).

34 ~~[K. The PUEBLO OF ISLETA Water Quality Standards may be~~  
35 ~~revised, from time to time, or as the need arises, or as~~  
36 ~~the result of updated scientific information.]~~

37 ~~[L.]~~ K. Errors resulting from inadequate and erroneous data  
38 or human or clerical oversight will be subject to  
39 correction by the PUEBLO OF ISLETA. The discovery  
40 of such errors does not render the remaining and  
41 unaffected standards invalid. If any provision of  
42 the PUEBLO OF ISLETA Surface Water Quality Standards,  
43 or the application of any provision of these Surface  
44 Water Quality Standards to any person or  
45 circumstance, should be held to be invalid, the  
46 application of such provision to other persons and

1 circumstances and the remainder of the Surface Water  
2 Quality Standards shall not be affected thereby.

3 L. It shall be the policy of the PUEBLO OF ISLETA to allow, on a case-by-case  
4 basis, the inclusion of a compliance schedule in a National Discharge Elimination  
5 System permit issued to an existing facility at the time of permit reissuance or  
6 modification. Such compliance schedule will be for the purpose of providing a  
7 permittee with a reasonable time period to make treatment facility modifications  
8 necessary to comply with water quality based permit limitations. Compliance  
9 schedules shall require compliance at the earliest practicable time and shall specify  
10 milestone dates so as to measure progress final compliance.



1           **SECTION II. Antidegradation Policy and Implementation Plan**

2           **A. Antidegradation Policy:**

- 3           1. Existing uses shall be fully protected. The level of  
4           water quality necessary to fully protect existing  
5           uses shall be maintained.  
6           2. Where existing water quality exceeds levels  
7           necessary to support propagation of fish, shellfish, and  
8           wildlife and recreation in and on the water, that  
9           level of water quality shall nonetheless be  
10          maintained and protected unless it is found, after  
11          full satisfaction of governmental and public  
12          participation requirements, that a lower level of  
13          water quality is required in order to accommodate  
14          important economic or social development in the  
15          area in which the waters are located. In allowing  
16          such degradation of surface water quality, the PUEBLO  
17          OF ISLETA shall [~~impose~~] assure water quality adequate to fully  
18          protect existing uses while imposing the highest statutory  
19          and regulatory requirements for point sources and  
20          [~~shall impose~~] implementation of effectual best management  
21          practices for nonpoint sources.  
22          3. Where high quality surface waters constitute an  
23          outstanding national or tribal resource, or waters  
24          of exceptional recreational or ecological  
25          significance, the surface water quality and uses of  
26          those water bodies shall be fully maintained and  
27          protected.  
28          4. In those cases where potential water quality  
29          impairments associated with thermal discharge are  
30          involved, the antidegradation policy and  
31          implementation method shall be consistent with  
32          Section 316 of the Clean Water Act, as amended, (33  
33          U.S.C. Section 1326 (1987)).

34          **B. Implementation Plan.**

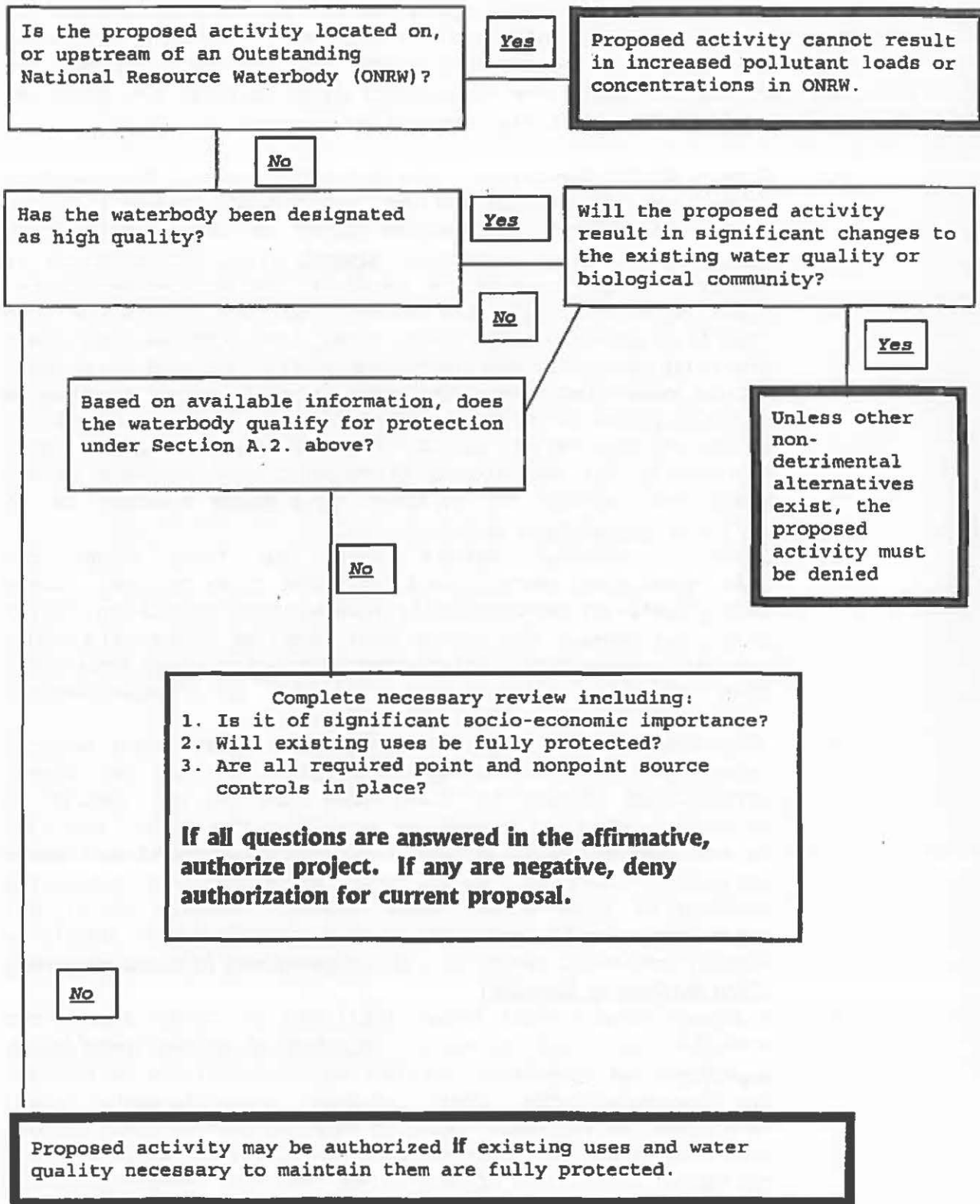
35          Acting under authority delegated by the PUEBLO OF ISLETA Tribal  
36          Council, the Tribal Water Quality Control Officer shall implement  
37          the PUEBLO OF ISLETA Surface Water Quality Standards, including the  
38          antidegradation policy, by establishing and maintaining controls on  
39          the introduction of pollutants into surface waters. More  
40          particularly, the Tribal Water Quality Control Officer shall do the  
41          following:

- 42               1. monitor water quality to assess the effectiveness  
43               of pollution controls and to determine whether

- 1 water quality standards are being attained;
- 2 2. obtain information as to the impact of effluents on
- 3 receiving waters;
- 4 3. advise prospective dischargers of discharge
- 5 requirements;
- 6 4. review the adequacy of the existing data base and
- 7 obtain additional data when required;
- 8 5. ~~[assess the probable impact of effluents on~~
- 9 ~~receiving waters in light of designated uses and~~
- 10 ~~numeric and narrative standards]~~ performs ongoing reviews
- 11 of federal surface water quality requirements and, as necessary, proposes
- 12 amendments to these standards;
- 13 6. require the highest and best degree of wastewater
- 14 treatment practicable and commensurate with
- 15 protecting and maintaining designated uses and
- 16 existing water quality;
- 17 7. develop water quality based effluent limitations
- 18 and comments on technology-based effluent
- 19 limitations, as appropriate, for inclusion in any
- 20 federal permit issued to a discharger pursuant to
- 21 Section 402 of the Clean Water Act (33 U.S.C.
- 22 Section 1342);
- 23 8. require that these effluent limitations be included
- 24 in any such permit as a condition for Tribal
- 25 certification pursuant to Section 401 of the Clean
- 26 Water Act, (33 U.S.C. Section 1341);
- 27 9. Seek to coordinate water pollution control activities
- 28 with other ~~[constituent]~~ tribal agencies and other
- 29 local, state, and federal agencies, as appropriate;
- 30 10. develop and pursue inspection and enforcement
- 31 programs in order to ensure that dischargers comply
- 32 with requirements of the PUEBLO OF ISLETA Surface
- 33 Water Quality Standards and any requirements
- 34 promulgated thereunder, and in order to support the
- 35 enforcement of federal permits by the U.S.
- 36 Environmental Protection Agency or the U.S. Army Corps of
- 37 Engineers;
- 38 11. provide continuing technical training for
- 39 wastewater treatment facility operators through
- 40 training and certification programs;
- 41 12. ~~[provide funds to assist in the construction of~~
- 42 ~~publicly owned wastewater treatment facilities~~
- 43 ~~through the construction grants and revolving funds~~
- 44 ~~program authorized by the Clean Water Act (33~~
- 45 ~~U.S.C. Section 1281), and other federal funds~~
- 46 ~~available for the purpose]~~ publish the results of water quality

- 1 investigations and the interpretation thereof; [and]  
2 13. encourage, in conjunction with other agencies,  
3 [voluntary] implementation of effectual best  
4 management practices to control nonpoint sources of  
5 pollutants to achieve compliance with the PUEBLO OF  
6 ISLETA Surface Water Quality Standards; [-]  
7 14. Evaluates the need for, and effectiveness of, best management practices;  
8 and.  
9 15. At a minimum, implementation of the antidegradation policy shall include  
10 the following review of any project which could result in a discharge to  
11 PUEBLO OF ISLETA surface waters:

## ANTIDEGRADATION REVIEW SCHEME





### SECTION III. General Standards

The following General Standards apply to all surface waters of the PUEBLO OF ISLETA, including intermittent and ephemeral streams, provided, however, that where Section[s] IV [~~and V,~~] below, set stricter [~~standards~~] criteria for designated water bodies, the stricter [~~standards~~] criteria supersede the General Standards.

- A. Stream Bottom Deposits: Surface waters shall be free from water contaminants from other than natural causes that may settle and have a deleterious effect on the aquatic biota or that will [~~significantly~~] adversely alter the physical or chemical properties of the water or the bottom sediments.
- B. Floating Solids, Oil, and Grease: Surface waters shall be free from objectionable oils, scum, foam, grease, and other floating materials and suspended substances of a persistent nature resulting from other than natural causes (including visible films of oil, globules of oil, grease, or solids in or on the water, or coatings on stream banks). As a guideline, oil and grease discharged into surface waters shall not exceed 10 mg/liter on a weekly average or 15 mg/liter instantaneous maximum.
- C. Color: Surface waters shall be free from true color-producing materials from other than natural causes that create an aesthetically undesirable condition. Color shall not impair the designated [~~and~~] or other attainable uses of a water body. Color-producing substances from other than natural sources are limited to concentrations equivalent to 70 color units (CU).
- D. Odor and Taste: Contaminants from other than natural causes are limited to concentrations that do not impart unpalatable flavor to fish, and that do not result in offensive odors [~~or taste~~] arising from the water, and that do not otherwise interfere with the designated and other attainable uses of a water body. Taste and odor-producing substances from other than natural origins shall not interfere with the production of a potable water supply by modern treatment methods. The criteria adopted to prevent organoleptic effects are found in Appendix I.
- E. Nuisance Conditions: Plant nutrients or other substances stimulating algal growth, or growth of excessive rooted aquatic vegetation from other than natural causes shall not be present in concentrations that produce objectionable algal densities or nuisance aquatic vegetation, or that result in a dominance of nuisance species instream, or that cause nuisance conditions in any other fashion. [~~Phosphorus and~~]

nitrogen] Plant nutrient concentrations shall not be permitted to reach levels which result in man-induced eutrophication problems. ~~[As a guideline, total phosphorus shall not exceed 100 µg/liter instream or 50 µg/liter in lakes and reservoirs, except in waters highly laden with natural silts or color which reduce the penetration of sunlight needed for plant photosynthesis, or in other waters where it can be demonstrated that algal production will not interfere with or adversely affect designated and other attainable uses. Alternative or additional nutrient]~~ If nuisance conditions resulting from plant nutrients are identified in the surface waters of the PUEBLO OF ISLETA limitations for ~~[surface waters]~~ such nutrients may be established by the PUEBLO OF ISLETA in accordance with the U.S. Environmental Protection Agency's "Ambient Water Quality Recommendations. Information Supporting the Development of State and Tribal Nutrient Criteria. Rivers and Streams in Nutrient Ecoregion III. (EPA 822-B-00-016, December 2000) and incorporated into ~~[water quality management plans]~~ these Surface Water Quality Standards.

F. Pathogens: Surface waters shall be virtually free from pathogens. Waters used for irrigation of table crops (e.g., lettuce) shall be virtually free of Salmonella and Shigella species.

G. Turbidity: Turbidity attributable to other than natural causes shall not reduce light transmission to a point where aquatic biota are inhibited or to a point that causes an unaesthetic and substantial visible contrast with the natural appearance of the water. Specifically, turbidity shall not exceed 5 NTU over background when background turbidity is 50 NTU or less, with no more than a 10 percent increase when background turbidity is more than 50 NTU.

H. Mixing Zones: Where effluent is discharged into surface waters ~~[, a continuous zone shall be maintained in which the water is of adequate quality to allow the migration of aquatic life with no significant effect on their population.]~~ the effluent shall not result in concentrations of any contaminant exceeding any water quality criteria or in the depletion of oxygen such that oxygen concentrations fall below 5.0 ppm or the change in pH such that it falls outside the acceptable pH range. ~~[The cross-sectional area of wastewater mixing zones shall generally be less than 1/4 of the cross-sectional area or flow volume of the receiving stream. Mixing zones in lakes may be assessed and limited on a case-by-case basis. Unmixed zones containing permitted effluent shall not be at locations of recreational or ceremonial use. (See Section IV, below.) Water quality [standards] shall be maintained throughout zones of passage. Zones of passage in lakes and intermittent streams~~



may be designated on a site specific basis. The water quality in a zone of passage shall not be permitted to fall below the standards for the designated water body(ies) within which the zone is contained. With regard to toxicity in mixing zones, see Subsection III(N), below.]

- I. Radioactive Materials: Concentrations of gross alpha and gross beta particle activity shall not exceed the concentration caused by erosion of naturally-occurring geologic materials. The combined dissolved concentration of Radium-226 and Radium-228, [~~and the concentration of Strontium-90~~] shall not exceed 5 picocuries per liter[~~and 8 picocuries per liter, respectively~~]. Gross alpha particle concentrations, including Radium-226 but excluding radon and uranium, shall not exceed 15 picocuries per liter. [~~Tritium concentration shall not exceed 20,000 picocuries per liter. The gross beta radiation concentration shall not exceed 50 picocuries per liter.~~] The average annual concentration of beta particles and of photon radioactivity [~~from man-made radionuclides~~] in surface waters [~~drinking water~~] shall not produce an annual dose equivalent to the total body or any internal organ greater than 4 millirem/year. Tritium concentrations shall not exceed 20,000 picocuries per liter and Strontium 90 concentrations shall not exceed 8 picocuries per liter.

- J. Temperature: The introduction of heat by other than natural causes shall not increase the temperature in a stream, [~~outside a mixing zone,~~] by more than 2.7 C (5 F), based upon the [~~monthly~~] weekly average of the maximum daily temperatures measured at mid-depth or three feet (whichever is less) [~~outside the mixing zone~~]. In lakes, the temperature of the water column or epilimnion (if thermal stratification exists) shall not be raised more than 1.7 C (3 F) above that which existed before the addition of heat of artificial origin, based upon the average of temperatures taken from the surface to the bottom or surface to the bottom of the epilimnion (if stratified). The normal daily and seasonal variations that were present before the addition of heat from other than natural sources shall be maintained. In no case shall man-introduced heat be permitted when the maximum temperature specified for the reach (20 C/68 F for coldwater fisheries and 32.2 C/ 90 F for warmwater fisheries) would thereby be exceeded. Privately-owned lakes and reservoirs used in the process of cooling water for industrial purposes may be classified using a less stringent special-use standard for thermal components, provided however, that the water released from any such lake or reservoir into a stream system or into Tribal lakes meets the surface water quality standards of the

receiving stream. High water temperatures caused by unusually high ambient air temperatures are not violations of these standards.

K. Salinity/Mineral Quality (total dissolved solids, chlorides, and sulfates): Existing mineral quality shall not be altered by municipal, industrial, and instream activities, or other waste discharges so as to interfere with the designated or attainable uses for a water body. An increase of more than 1/3 over naturally-occurring levels shall not be permitted.

L. The pH of a stream or lake shall not be permitted to fluctuate in excess of 1.0 unit over a period of 24 hours for other than natural causes.

M. If a stream or lake is capable of supporting aquatic life, the dissolved oxygen standard will be a minimum of 5 mg/l.

N. Toxic Substances:

1. Toxic substances shall not be present in [receiving] surface waters in quantities that are toxic to human, animal, plant, or aquatic life, or in quantities that interfere with the normal propagation, growth, and survival of the sensitive indigenous aquatic biota. ~~[Within the mixing zone, T[t]here shall be no acute toxicity[. There shall be]~~ and no significant chronic toxicity [at the edge of the mixing zone] in any PUEBLO OF ISLETA surface water. For toxic substances lacking EPA published criteria, biomonitoring data may be used to determine compliance with this narrative standard in accordance with EPA standard acute and chronic biological test protocols. These protocols can be found in Methods for Measuring the Acute Toxicity of Effluents to [Aquatic] Freshwater and Marine Organisms, EPA-600/4-90/027; Short Term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Freshwater [Marine and Estuarine] Organisms, EPA-600/4[-91/003] -89/001; U.S. Environmental Protection Agency, "Technical Support Document for Water Quality-Based Toxics Control" EPA/505/2-90-001; U.S. Environmental Protection Agency, Region VI, "Post Third Round NPDES [Permitting] Permit Implementation Strategy"; and U.S. Environmental Protection Agency, "Quality Criteria for Water, 1986" or the latest revisions thereof. The handling of toxicants in [receiving] surface waters that are known to be persistent, bioaccumulative, carcinogenic, and/or synergistic with other waste stream components shall be addressed on a case-by-case basis.

2. Toxic substance criteria for [For] surface waters with designated aquatic

1 life uses, or from which fish are caught for human consumption [toxic  
2 substances listed below, the following numeric  
3 criteria shall apply] are found in Appendix II.

4 O. Biological Integrity: All surface waters of the PUEBLO OF ISLETA with an  
5 existing or attainable fisheries use must demonstrate aquatic life communities  
6 which are similar in variety and abundance to least-disturbed waters within the  
7 Middle Rio Grande Basin and with similar hydrologic conditions. Measurements of  
8 biological integrity should include fish community structure and other associated  
9 aquatic life components. A significant adverse alteration of the abundance or  
10 variety of the aquatic life community constitutes a violation of these surface water  
11 quality standards.



1           SECTION IV. Water Body Uses and Standards Specific to the Uses

- 2           A.   Marginal Coldwater Fishery Use. A marginal coldwater  
3           fishery is a stream or river reach, lake, or impoundment  
4           where water temperature and other characteristics are  
5           suitable for support of coldwater fish (such as brown  
6           trout, cutthroat trout, brook trout, or rainbow trout), but  
7           where temperature and other characteristics may not always  
8           be suitable for propagation of coldwater fish.

9                   Standards specific to the use are as follows:

- 10                  1.   Dissolved oxygen minimum: 6 mg/l  
11                  2.   Temperature maximum: 20 C (68 F)  
12                  3.   pH range: 6.6-9.0  
13                  4.   [Un-ionized] Total ammonia (as N) [maximum]:  
14                    ~~[0.03 mg/l]~~ shall not exceed at any time the Environmental  
15                    Protection Agency's national recommended Criterion Maximum  
16                    Concentration or, exceed more than once in any three-year period,  
17                    the Criterion Continuous Concentration as contained in Appendix  
18                    III.

- 19                  5.   Total residual chlorine maximum: 0.011 mg/l

- 20           B.   Coldwater Fishery Use. A coldwater fishery is a stream  
21           or river reach, lake, or impoundment where water temperature  
22           and other characteristics are suitable for support and  
23           propagation of coldwater fish such as brown trout,  
24           cutthroat trout, brook trout, or rainbow trout. (See  
25           Section VII, "Definitions," below.)

26                   Standards specific to the use are as follows:

- 27                  1.   Dissolved oxygen minimum: 6 mg/l  
28                  2.   Temperature maximum: 20 C (68 F)  
29                  3.   pH range: 6.6-8.8  
30                  4.   [Un-ionized] Total ammonia (as N) [maximum]:  
31                    ~~[0.03 mg/l]~~ shall not exceed at any time the Environmental  
32                    Protection Agency's national recommended Criterion Maximum  
33                    Concentration or, exceed more than once in any three-year period,  
34                    the Criterion Continuous Concentration as contained in Appendix  
35                    III.

- 36                  5.   Total residual chlorine maximum: 0.011 mg/l

- 37           C.   Warmwater Fishery Use. A warmwater fishery is a stream or  
38           river reach, lake, or impoundment where water temperature  
39           and other characteristics are suitable for support and  
40           propagation of warmwater fish such as large-mouth black  
41           bass, small-mouth black bass, crappie, white bass,  
42           bluegill, flathead catfish, or channel catfish.

43                   Standards specific to the use are as follows:

3. pH range: 6.0-9.0
4. ~~[Un-ionized]~~ Total ammonia (as N) [maximum]:  
~~[0.03 mg/l]~~ shall not exceed at any time the Environmental Protection Agency's national recommended Criterion Maximum Concentration or, exceed more than once in any three-year period, the Criterion Continuous Concentration as contained in Appendix III.

5. Total residual chlorine maximum: 0.011 mg/l

D. Primary Contact Ceremonial Use. Primary contact ceremonial use means the use of a stream or river reach, lake, or impoundment for religious or traditional purposes by members of the PUEBLO OF ISLETA; such use involves immersion, and intentional or incidental ingestion of water, and it requires protection of sensitive and valuable aquatic life and riparian habitat.

Standards specific to the use are as follows:

1. ~~[Fecal coliform]~~ Bacteria<sup>3</sup>  
 geometric mean maximum Escherichia coli (E. coli): 126 per 100 ml ~~[100 colonies/100 ml]~~ (geometric mean calculation based on a minimum of five samples taken over a maximum of 30 days) single sample maximum: 200 colonies/100 ml
- ~~[2. Turbidity]~~ shall not exceed ~~25 NTU's.~~
- ~~[3.]~~ 2. The open water shall be free from algae in concentrations causing a nuisance condition or causing gastrointestinal or skin disorders.
- ~~[4.]~~ 3. Concentrations of the following substances shall not exceed the following [Maximum Contaminant Levels (MCL's)]:

SUBSTANCE (Total)	Criteria
<u>Diazinon</u>	<u>0.2 µg/L</u>
<u>Ethylbenzene</u>	<u>0.7 mg/L</u>
Methoxychlor	0.1 mg/L
2,4-Dichlorophenoxyacetic acid	0.1 mg/L
<u>[2,2,4,5-Trichlorophenoxypropionic Acid (Silvex)]</u>	<u>0.01 mg/l</u>

<sup>3</sup> ~~[Fecal coliform]~~ Bacteria [and turbidity both] can vary suddenly and unpredictably. Accordingly, ~~[fecal coliform] bacteria~~ [and turbidity] effluent limits that would be allocated to dischargers in order for the standards set forth herein to be met shall apply regardless of instantaneous natural background levels.

[As an alternative to fecal coliform, the PUEBLO OF ISLETA may adopt and apply standards for E. coli at a geometric mean maximum of 47 colonies/100 ml and a single sample maximum of 88 colonies/100 ml, in accordance with an illness rate of 4 per 1,000 exposures.]

<u>SUBSTANCE (Total)</u>	<u>Criteria</u>
<u>Toluene</u>	<u>1.0 mg/L</u>
Total trihalomethanes	0.10 mg/L
Trichloroethylene	0.005 mg/L
[Carbon tetrachloride	0.005 mg/L]
[1,2-dichloroethane	0.005 mg/L]
[Vinyl chloride	0.002 mg/L]
[Benzene	0.005 mg/L]
1,1,1-Trichloroethane	0.20 mg/L
[1,4-Dichlorobenzene	0.075 mg/L]
<u>Xylenes (total)</u>	<u>10.0 mg/L</u>
<u>Antimony</u>	<u>0.006 mg/L</u>
Barium	1.0 mg/L
<u>Beryllium</u>	<u>0.004 mg/L</u>
<u>Cadmium</u>	<u>0.005 mg/L</u>
<u>Chromium</u>	<u>0.1 mg/L</u>
<u>Cyanide (free)</u>	<u>0.2 mg/L</u>
Fluoride	4.0 mg/L
[Nitrate] <u>Total Inorganic Nitrogen</u> <sup>4</sup>	10.0 mg/L
<u>Mercury</u>	<u>0.002 mg/L</u>
Selenium	0.01 mg/L
<u>Thallium</u>	<u>0.002 mg/L</u>

E. Primary Contact Recreational Use. Primary contact recreational use means the recreational use of a stream or river reach, lake, or impoundment involving prolonged contact and the risk of ingesting water in quantities sufficient to pose a health hazard; examples are swimming and water skiing.

Standards specific to the use are:

1. [Fecal coliform] Bacteria

[a. ~~April 1-September 30.~~

~~(1) geometric mean maximum: 100 colonies/100 ml  
(geometric mean calculation based on a minimum of five samples taken over a maximum of 30 days)~~

~~(2) single sample maximum: 200 colonies/100 ml~~

b. ~~October 1-March 31. Fecal coliform standards for Secondary Contact Recreational Use apply.]~~

geometric mean maximum Escherichia coli (E. coli): 126 per 100 ml  
(geometric mean calculation based on a minimum of five samples taken over a maximum of 30 days) single sample maximum: 200 colonies/100 ml

2. pH range: 6.6-9.0

3. The open water shall be free from algae in concentrations causing a nuisance condition or causing gastrointestinal or skin disorders.

[F. ~~Secondary Contact Recreational Use. Secondary contact~~

<sup>4</sup> Shall be calculated as: Total Inorganic Nitrogen (TIN) = Ammonia (NH<sub>3</sub>) + Ammonium (NH<sub>4</sub>) + Nitrate (NO<sub>3</sub>) + Nitrite (NO<sub>2</sub>)



recreational use means the recreational use of a stream, reach, lake, or impoundment in which contact with the water may, but need not, occur and in which the probability of ingesting water is minimal, examples are fishing and boating.

Standards specific to the use are:

1. Fecal coliform:

geometric mean maximum. 200 colonies/100 ml  
geometric mean calculation based on a minimum of five samples taken over a maximum of 30 days) single sample maximum. 400 colonies/100 ml

2. The open water shall be free from algae in concentrations causing a nuisance condition or causing gastrointestinal or skin disorders.]

[G.] F. Agricultural Water Supply Use. Agricultural water supply use means the use of water for irrigation and livestock watering.

Standards specific to the use are:

[1. Fecal coliform:

geometric mean maximum. 1000 colonies/100 ml  
geometric mean calculation based on a minimum of five samples taken over a maximum of 30 days) single sample maximum. 2000 colonies/ 100 ml]

[2.] Concentration of the following substances shall not exceed the following criteria:

<u>SUBSTANCE</u>	<u>LIVESTOCK</u>	<u>IRRIGATION</u>
Aluminum, <u>dissolved</u>	5.0 mg/L	5.0 mg/L
Arsenic, <u>dissolved</u>	0.2 mg/L	- -
Boron, <u>dissolved</u>	5.0 mg/L	0.75 mg/L
Cadmium, <u>dissolved</u>	0.05 mg/L	- -
Chromium, <u>dissolved</u>	1.0 mg/L	- -
Cobalt, <u>dissolved</u>	1.0 mg/L	0.05 mg/L
Copper, <u>dissolved</u>	0.5 mg/L	- -
Fluoride, <u>dissolved</u>	2.0 mg/L	1.0 mg/L
Lithium, <u>dissolved</u>	- -	2.5 mg/L
Mercury, <u>Total</u>	0.001 mg/L	- -
Molybdenum, <u>dissolved</u>	- -	0.01 mg/L
Selenium, <u>total rec</u>	0.05 mg/L	- -
Vanadium, <u>dissolved</u>	0.1 mg/L	0.1 mg/L

[H.] G. Fish Culture Use. Fish culture use means the use of a stream or river reach, lake, or impoundment for production of coldwater or warmwater fish in a hatchery or rearing station.

There are no standards specific to the use. The "General Standards" (Section III, above) apply.

[I.] H. Industrial Water Supply Use. Industrial water supply

1 use means use with reference to the production of goods  
2 or services for profit.  
3 There are no standards specific to the use. The "General  
4 Standards" (Section III, above) apply.

Section V. Designated Uses [~~and Standards for Designated~~] of PUEBLO OF  
ISLETA Surface Water Bodies

- A. The designated uses [~~and standards~~] are as follows for the segment of the Rio Grande that passes through the PUEBLO OF ISLETA Reservation, from a northernmost point located in Township 8 North, Range 2 East, Section 1, Southwest Quarter, approximately 1/4 mile south of the I-25 overpass over the Rio Grande, to a southernmost point located in Township 7 North, Range 2 East, Section 15, Northeast Quarter, approximately two miles north of the State Road 49 bridge over the Rio Grande, including all tributaries [~~and branches~~] thereof, except for water bodies such as Drains, that are separately designated in this Section (Section V):

1. Uses:

- a. Warmwater fishery use
- b. Primary contact ceremonial use
- c. Primary contact recreational use
- ~~[d. Secondary contact recreational use]~~
- ~~[e.]~~ d. Agricultural water supply use
- ~~[f.]~~ e. Industrial water supply use

~~[2. Standards:~~

- ~~a. Dissolved oxygen minimum: 5 mg/l~~
- ~~b. Fecal coliform~~  
~~geometric mean maximum: 100 colonies/100 ml~~  
~~(geometric mean calculation based on a minimum of~~  
~~five samples taken over a maximum of 30 days)~~  
~~Single sample maximum: 200 colonies/100 ml~~
- ~~c. Temperature maximum: 32.2 C (90 F)~~
- ~~d. pH range: 6.0 - 9.0~~
- ~~e. Un-ionized ammonia (as N) maximum: 0.03 mg/l~~
- ~~f. Total residual chlorine maximum: 0.011 mg/l~~
- ~~g. Maximum Contaminant Levels (MCL's) not to exceed~~  
~~levels set forth in Section IV(D), above~~
- ~~h. Turbidity not to exceed 25 NTU's]~~

- B. The designated uses [~~and standards~~] are as follows for the Isleta Lakes:

1. Uses:

- a. Marginal coldwater fishery use
- b. Warmwater fishery use
- c. Primary contact ceremonial use
- d. Primary contact recreational use
- ~~[e. Secondary contact recreational use]~~
- ~~[f.]~~ e. Agricultural water supply use
- ~~[g.]~~ f. Industrial water supply use

~~[2. Standards:~~

- ~~a. Dissolved oxygen minimum: 6 mg/l~~



- b. ~~Fecal coliform~~  
geometric mean maximum: 100 colonies/100 ml geometric  
mean calculation based on a minimum of five samples  
taken over a maximum of 30 days) Single sample maximum:  
200 colonies/100 ml
- c. ~~Temperature maximum: 20 C (68 F)~~
- d. ~~pH range: 6.5 - 8.5~~
- e. ~~Un-ionized ammonia (as N) maximum: 0.03 mg/l~~
- f. ~~Total residual chlorine maximum: 0.011 mg/l~~
- g. ~~Maximum Contaminant Levels (MCL's) not to exceed~~  
~~levels set forth in Section IV(B), above~~
- h. ~~Turbidity not to exceed 25 NTU's]~~

C. The designated uses [and standards] are as follows for the following water bodies:

Coyote Bay Spring	Largo Spring	Sand Spring
Carolino Spring	Lujan Spring	Cabin Spring
Gotera Spring	Padilla Spring	Questa Spring
Guadalupe Spring	Manzano Spring	Blue Spring
Hells Canyon Spring	Pitch Spring	Bear Spring
White Rock Spring	Goat Spring	Gallina Spring
Hubble Spring	Bar Chical	Rio Puerco
Sandhill Ponds		

Albuquerque Riverside Drain (segment within the Reservation)  
 Atrisco Riverside Drain (segment within the Reservation)  
 Isleta Interior Drain (segment within the Reservation)  
 Indian Interior Drain  
 Isleta Riverside Drain  
 Belen Riverside Drain (segment within the Reservation)  
 Peralta Riverside Drain (segment within the Reservation)  
 Tome Interior Drain (segment within the Reservation)

1. Uses:

- a. Warmwater fishery use
- b. Primary contact ceremonial use
- c. Primary contact recreational use
- [d. ~~Secondary contact recreational use]~~
- [f.] e. Agricultural water supply use
- [g.] f. Industrial water supply use

[2. ~~Standards:~~

- a. ~~Dissolved oxygen minimum: 6 mg/l~~
- b. ~~Fecal coliform geometric mean maximum: 100 colonies/100~~  
~~ml (geometric mean calculation based on a minimum of~~  
~~five samples taken over a maximum of 30 days) Single~~  
~~sample maximum: 200 colonies/100 ml~~
- c. ~~Temperature maximum: 20 C (68 F)~~
- d. ~~pH range: 6.5 - 8.5~~
- e. ~~Un-ionized ammonia (as N) maximum: 0.03 mg/l~~

1. ~~f. Total residual chlorine maximum. 0.011 mg/l~~
2. ~~g. Maximum Contaminant Levels (MCL's) not to exceed levels~~
3. ~~set forth in Section IV(D), above~~
4. ~~h. Turbidity not to exceed 25 NTU's]~~

## SECTION VI. Sampling and Analyses

- A. Sample collection, preservation, and analysis used to determine water quality and to maintain the standards set forth in the Surface Water Quality Standards shall be performed in accordance with procedures prescribed by the latest EPA authoritative analytical reference, including but not limited to the latest editions of any of the following authorities: (1) American Public Health Association, Standard Methods for the Examination of Water and Wastewater; (2) "Methods for Chemical Analysis of Water and Wastes"; or (3) "EPA Guidelines Establishing Test Procedures for the Analysis of Pollutants."
- B. Bacteriological Surveys: The monthly geometric mean is used in assessing attainment of standards when a minimum of five samples is collected in a 30-day period. When less than 5 samples are collected in a 30-day period, no single sample shall exceed the applicable upper limit for bacterial density set forth in Section IV.
- C. Sampling Procedures:
1. Streams: Stream monitoring stations below waste discharges shall be located a sufficient distance downstream to ensure adequate vertical and lateral mixing.
  2. Reservoirs and Lakes: Sampling stations in reservoirs shall be located at least 250 feet from a waste discharge, and, otherwise, where the attainment of a water quality standard is to be assessed. Water quality measurements shall be taken at intervals in the water column at a sampling station. For toxic substances and nutrients, the entire water column shall be monitored. For dissolved oxygen in stratified lakes, measurements shall be made in the epilimnion. In nonstratified lakes measurements will be made at intervals throughout the entire water column.

## SECTION VII. Definitions<sup>(5)</sup>

"Acute Toxicity": Toxicity which exerts short term unacceptable impacts on representative sensitive organisms with a duration of exposure generally less than or equal to 96 hours;

"Agricultural water supply use": The use of water for irrigation and livestock;

"Algae": Simple plants without roots, stems, or leaves which contain chlorophyll and are capable of photosynthesis;

"Antidegradation": The policy set forth in U.S. Environmental Protection Agency Water Quality Standards Regulations under the Clean Water Act whereby existing uses and the level of water quality necessary to maintain those uses is maintained and protected (See 40 C.F.R. Section 131.12 [~~1987~~]);

"Aquatic biota": Animal and plant life in the water;

"Attainable use": ~~[A use of a surface water body which has the level of water quality and other characteristics that are needed to support the use, or which would have the level of water quality and other characteristics needed to support the use upon implementation of and compliance with the pertinent narrative and numeric standards in the PUEBLO OF ISLETA Water Quality Standards]~~ Uses are deemed attainable if they can be achieved by the imposition of effluent limits required under the federal Clean Water Act sections 301(b) <sup>6</sup> and 306 <sup>7</sup> and implementation of effectual best management practices for nonpoint source control ;

"Best management practices": Practices undertaken to control, restrict, and diminish nonpoint sources of pollution, that are consistent with the purposes of the PUEBLO OF ISLETA Surface Water Quality Standards and with the narrative and numeric standards contained therein; measures, sometimes structural, that are determined to be the most effective practical means of preventing or reducing pollution of water bodies from nonpoint sources;

"Carcinogenic": Cancer producing;

"Chronic toxicity": Toxicity which exerts sublethal negative effects such as impairment of growth or reproduction, or which becomes lethal after long term exposure, generally measured in a 28-day test on representative sensitive organisms;

"Coldwater fishery": A stream reach, lake, or impoundment where water temperature and other characteristics are suitable for support and propagation of coldwater fish such as brown trout, cutthroat trout, brook trout, or rainbow trout:

"Color": True color as well as apparent color. True color is the color of the water from which turbidity has been removed. Apparent

<sup>5</sup>[Words and terms defined in this Section are designated in bold wherever used in the text of the "PUEBLO OF ISLETA Water Quality Standards."]

<sup>6</sup> 33 U.S.C. Section § 1311(b)

<sup>7</sup> 33 U.S.C. Section § 1316.



1 color includes not only the color due to substances in solution (true  
2 color), but also that color due to suspended matter;

3 "Criteria": elements of surface water quality standards, expressed as constituent  
4 concentrations, levels, or narrative statements, representing a quality of water that supports a  
5 particular use. When criteria are met, water quality will generally protect the designated use.

6 "Cumulative": Increasing by successive additions;

7 "Designated uses": Those uses set forth in the surface water  
8 quality standards herein which are to be protected;

9 "Dissolved oxygen (DO)": The amount of oxygen dissolved in water  
10 or the amount of oxygen available for biochemical activity in water,  
11 commonly expressed as a concentration in milligrams per liter.

12 [~~"Drinking water": Water that meets the General Standards set~~  
13 ~~forth in Section III above and that only requires disinfection in order~~  
14 ~~to be usable for drinking or cooking;~~]

15 "Effluent": Discharge into surface waters from other than  
16 natural sources;

17 "Ephemeral stream": A stream or reach that flows briefly only in  
18 direct response to precipitation or snowmelt in the immediate locality,  
19 the channel bed of which is always above the water table in the  
20 surrounding area;

21 "Epilimnion": The layer of water that overlies the thermocline  
22 of a lake and that is subject to the action of wind;

23 "Eutrophication": The maturation of a body of water, involving  
24 increasing concentration of dissolved nutrients and seasonal oxygen  
25 deficiency.

26 "Escherichia coli (E. coli)": A bacterium which normally inhabits the human digestive system  
27 although some forms are also found in other mammals. Several forms of this bacterium that have been  
28 found to cause diarrheal diseases in humans are found in waters used for recreation and are known  
29 to have caused health problems when ingested during recreational activities.

30 "Existing uses": Those uses actually attained in a surface water  
31 body on or after November 28, 1975, whether or not they are referred to  
32 in the PUEBLO OF ISLETA Surface Water Quality Standards;

33 [~~"FDA Action Limits": Levels promulgated by the U.S. Food and~~  
34 ~~Drug Administration concerning concentrations of substances in food;~~]

35 [~~"Fecal coliform bacteria": Gram negative, non spore-forming~~  
36 ~~rod-shaped bacteria which are present in the gut or the feces of~~  
37 ~~warmblooded animals. Fecal coliform bacteria generally includes~~  
38 ~~organisms which are capable of producing gas from lactose broth in a~~  
39 ~~suitable culture medium within 24 hours at 44.5 +/- 0.2 C.]~~

40 "Fish culture": The production of [~~coldwater or warmwater~~] fish  
41 in a hatchery or rearing station;

42 "Fishery": A balanced, diverse community of fishes controlled by  
43 the water quality, quantity, and habitat of a waterbody;

44 [~~"FTU": Formazin turbidity units (See American Public Health~~  
45 ~~Association, Standard Methods for the Examination of Water and~~  
46 ~~Wastewater); environment;~~]

47 "Geometric Mean": Antilog of the mean of the logs of a set of  
48 numbers;



1 "Indigenous": Produced, growing, or living naturally in a  
2 particular region or environment;

3 "Industrial water supply use": The use of water with reference  
4 to the production of goods or services for profit;

5 "Intermittent stream": A stream or reach of a stream that flows  
6 only at certain times of the year, when receiving flow from springs,  
7 melting snow, or localized precipitation;

8 "Marginal coldwater fishery": A stream reach, lake, or  
9 impoundment where water temperature and other characteristics are  
10 suitable for support of coldwater fish (such as brown trout, cutthroat  
11 trout, brook trout, or rainbow trout), but where temperature and other  
12 characteristics may not always be suitable for propagation of coldwater  
13 fish;

14 "Milligrams per Liter (mg/l)": The concentration at which one  
15 milligram is contained in a volume of one liter; one milligram per  
16 liter is equivalent to one part per million (ppm) at unit density;

17 ~~"Mixing Zone". A three-dimensional zone in which discharged~~  
18 ~~effluent mixes with the receiving water and within which there is a~~  
19 ~~gradation of water quality;]~~

20 "Narrative standard": A standard or criterion expressed in words  
21 rather than numerically;

22 "Natural background": Characteristics that are not man-induced  
23 that are related to water quality; the levels of pollutants present in  
24 ambient water that are from natural, as opposed to man-induced,  
25 sources;

26 "Nonpoint source": A source of pollution that is not a  
27 discernible, confined, and discrete conveyance; a diffuse source which  
28 flows across natural or manmade surfaces, such as run-off from  
29 agricultural, construction, mining, or silvicultural activities, or  
30 from urban areas;

31 "NTU": Nephelometric Turbidity Units; a measure of turbidity in  
32 water;

33 "Nuisance condition": A condition involving uncontrolled growth  
34 of aquatic plants, usually caused by excessive nutrients in the water.

35 "Nutrient": A chemical element or inorganic compound taken in by  
36 green plants and used in organic synthesis;

37 "Organoleptic effects": contaminants whose presence cause adverse  
38 taste or odors in water or fish.

39 "Perennial stream": A stream or reach of a stream that flows  
40 continuously throughout the year, the upper surface of which is  
41 generally lower than the water table of the region adjoining the  
42 stream;

43 "Persistent": Resistant to degradation or change;

44 "pH": The negative logarithm of the effective hydrogen-ion  
45 concentration in gram equivalents per liter; a measure of the acidity  
46 or alkalinity of a solution, increasing with increasing alkalinity and  
47 decreasing with increasing acidity;

48 "Picocurie (pCi)": That quantity of radioactive material  
49 producing 2.22 nuclear transformations per minute;

1 "Point source": Any discernible, confined, and discrete  
2 conveyance from which pollutants are or may be discharged into a water  
3 body; does not include return flows from irrigated agriculture;

4 "Primary contact ceremonial use": The use of a stream, reach,  
5 lake, or impoundment for religious or traditional purposes by members  
6 of the PUEBLO OF ISLETA; such use involves immersion, and intentional  
7 or incidental ingestion of water, and it requires protection of  
8 sensitive and valuable aquatic life and riparian habitat;

9 "Primary contact recreational use": Recreational use of a  
10 stream, reach, lake, or impoundment involving prolonged contact and the  
11 risk of ingesting water in quantities sufficient to pose a health  
12 hazard; examples are swimming and water skiing;

13 ~~["Secondary contact recreational use": Recreational use of a~~  
14 ~~stream, reach, lake, or impoundment in which contact with the water~~  
15 ~~may, but need not, occur and in which the probability of ingesting~~  
16 ~~water is minimal, examples are fishing and boating;]~~

17 "Segment": A water quality standards segment, the surface waters  
18 of which have common hydrologic characteristics or flow regulation  
19 regimes, possess common natural physical, chemical, and biological  
20 characteristics, and exhibit common reactions to external stresses,  
21 such as the discharge of pollutants;

22 "Thermal Stratification": Horizontal layers of different  
23 densities produced in a lake caused by temperature;

24 "Toxicity": State or degree of being toxic or poisonous; lethal  
25 or sublethal adverse effects on representative sensitive organisms, due  
26 to exposure to toxic materials;

27 "Turbidity": A measure of the amount of suspended material,  
28 particles, or sediment, which has the potential for adverse impacts on  
29 aquatic biota;

30 "Use-attainability analysis": A structured scientific assessment  
31 of the factors affecting attainment of a use for a body of water, which  
32 assessment may include physical, chemical, biological, and economic  
33 factors, such as those referred to in 40 C.F.R. Section 131.10(g), and  
34 guidance for which may be found in U.S. Environmental Protection  
35 Agency, Technical Support Manual: Waterbody Surveys and Assessments for  
36 Conducting Use-Attainability Analyses (Volume 1--Streams; Volume  
37 2--Estuarine Systems; Volume 3--Lake Systems);

38 "Warmwater fishery": A stream reach, lake, or impoundment where  
39 water temperature and other characteristics are suitable for support  
40 and propagation of warmwater fish such as large-mouth black bass,  
41 small-mouth black bass, crappie, white bass, bluegill, flathead  
42 catfish, or channel catfish;

43 "Water Contaminant": Any substance which alters the physical,  
44 chemical, or biological qualities of water;

45 ~~["Zone of passage": The portion of the receiving water outside the~~  
46 ~~mixing zone (where water quality is, throughout, the same as that of~~  
47 ~~the receiving water).]~~

48 "Waters of the United States": Means any or all of the following

49 a) All waters which are currently used, were used in the past, or may be susceptible to use



1 in interstate or foreign commerce, including all waters which are subject to the ebb and  
2 flow of the tide;

3 b) All interstate waters, including interstate "wetlands;"

4 c) All other waters such as intrastate lakes, rivers, streams (including intermittent  
5 streams), mudflats, sandflats, "wetlands," sloughs, prairie potholes, wet meadows,  
6 playa lakes, or natural ponds the use, degradation, or destruction of which would affect  
7 or could affect interstate or foreign commerce including any such waters:

8 1) Which are or could be used by interstate or foreign travelers for recreational or  
9 other purposes;

10 2) From which fish or shellfish are or could be taken and sold in interstate or  
11 foreign commerce; or

12 3) Which are used or could be used for industrial purposes by industries in  
13 interstate commerce;

14 d) All impoundments of waters otherwise defined as waters of the United States under this  
15 definition;

16 e) Tributaries of waters identified in paragraphs (a) through (d) of this definition;

17 f) The territorial sea; and

18 g) "Wetlands" adjacent to waters (other than waters that are themselves wetlands)  
19 identified in paragraphs (a) through (f) of this definition.

**APPENDIX I. ORGANOLEPTIC EFFECT CRITERIA**

	<b><u>POLLUTANT</u></b>	<b><u>CRITERIA</u></b>
1		
2	<b><u>Acenaphthene</u></b>	<b><u>20 µg/L</u></b>
3	<b><u>Monochlorobenzene</u></b>	<b><u>20 µg/L</u></b>
4	<b><u>Chlorophenols (2- or 4-)</u></b>	<b><u>0.1 µg/L</u></b>
5	<b><u>Dichlorophenols (2,3- , 2,5-, 2,6-, 3,4)</u></b>	<b><u>40 ng/L</u></b>
6	<b><u>Trichlorophenol (2,4,5- , 2,4,6-)</u></b>	<b><u>0.2 µg/L</u></b>
7	<b><u>2,3,4,6-Tetrachlorophenol</u></b>	<b><u>1 µg/L</u></b>
8	<b><u>2-Methyl-4-Chlorophenol</u></b>	<b><u>1.8 mg/L</u></b>
9	<b><u>3-Methyl-4-Chlorophenol</u></b>	<b><u>3.0 mg/L</u></b>
10	<b><u>3-Methyl-6-Chlorophenol</u></b>	<b><u>20 µg/L</u></b>
11	<b><u>2-Chlorophenol</u></b>	<b><u>0.1 µg/L</u></b>
12	<b><u>Copper</u></b>	<b><u>1.0 mg/L</u></b>
13	<b><u>2,4-Dichlorophenol</u></b>	<b><u>0.1 µg/L</u></b>
14	<b><u>2,4-Dinitrophenol</u></b>	<b><u>400 µg/L</u></b>
15	<b><u>Hexachlorocyclopentadiene</u></b>	<b><u>1 µg/L</u></b>
16	<b><u>Nitrobenzene</u></b>	<b><u>30 µg/L</u></b>
17	<b><u>Pentachlorophenol</u></b>	<b><u>30 µg/L</u></b>
18	<b><u>Phenol</u></b>	<b><u>300 µg/L</u></b>
19	<b><u>Zinc</u></b>	<b><u>5.0 mg/L</u></b>

APPENDIX II. Toxic Substances..

<b>TRACE ELEMENTS, MAJOR METALS AND METALLOIDS</b>			
<b>FRESH WATER AQUATIC LIFE CRITERIA</b>			<b>HUMAN HEALTH CRITERIA<sup>1</sup></b> (Based on fish consumption ONLY)
<b>SUBSTANCE</b>	<b>CHRONIC TOXICITY</b> (µg/L) (c) <sup>2</sup>	<b>ACUTE TOXICITY</b> (µg/L) (c) <sup>2</sup>	<b>units / Liter</b> <b>NOT TO EXCEED</b>
<u>Aluminum, dissolved</u>	87	750	--
Antimony, <u>dissolved</u>	[1,600 <sup>+</sup> ]	[9,000 <sup>+</sup> ]	[45,000] 4,300 µg/L
Arsenic, <u>dissolved</u>	150	340	[17.5 mg/L] 4.2 µg/L
[Pent]	[40 <sup>+</sup> ]	[850 <sup>+</sup> ]	--
[Tri]	[190]	[360]	--
[Beryllium]	[5.3 <sup>+</sup> ]	[130 <sup>+</sup> ]	[117-ng]
Cadmium, <u>dissolved</u>	$[e^{(-0.7832(\ln(hd)) - 3.437)}]$ $(e^{(0.7409(\ln(hd)) - 4.719)}) (0.938)$	$[e^{(-1.23(\ln(hd)) - 3.824)}]$ $(e^{(1.0166(\ln(hd)) - 3.924)}) (0.973)$	--
Chromium, <u>dissolved</u>	$(e^{(0.819(\ln(hd)) + 0.6848)}) (0.86)$	$(e^{(0.819(\ln(hd)) + 3.7256)}) (0.316)$	--
[Tri]	$[e^{(0.819(\ln(hd)) + 1.561)}]$	$[e^{(0.819(\ln(hd)) + 3.688)}]$	[3.433-mg/L]
[Hex]	[11]	[16]	--

<sup>1</sup> The values stated below as "HUMAN HEALTH CRITERIA" for [these substances] the individual pollutants are based on the assumption that fish from the surface waters covered by the PUEBLO OF ISLETA Surface Water Quality Standards are consumed but waters from these surface waters [are] are not regularly ingested. A risk of 10<sup>-6</sup> is [assumed] hereby implemented for carcinogens.

<sup>2</sup> ~~[Chronic and acute toxicity averaging periods and exceedances are as specified by the U.S. Environmental Protection Agency in "Quality Criteria for Water, 1966."]~~ Chronic and acute criteria shall be applied to individual datum, no averaging shall be allowed. Acute criteria shall not be exceeded. Chronic criteria shall not be exceeded more than once in any three year period.

APPENDIX II. Toxic Substances..

<b>TRACE ELEMENTS, MAJOR METALS AND METALLOIDS (CONTINUED)</b>			
<b>FRESH WATER AQUATIC LIFE CRITERIA</b>			<b>HUMAN HEALTH CRITERIA <sup>1</sup></b> (Based on fish consumption ONLY)
<b>SUBSTANCE</b>	<b>CHRONIC TOXICITY</b> ( $\mu\text{g/L}$ ) (e) <sup>2</sup>	<b>ACUTE TOXICITY</b> ( $\mu\text{g/L}$ ) (e) <sup>2</sup>	<b>units / Liter</b> <b>NOT TO EXCEED</b>
Copper, <i>dissolved</i>	$[e^{(0.8545[\ln(hd)]-1.465)}]$ $(e^{(0.8545[\ln(hd)]-1.702)}) (0.96)$	$[e^{(0.9422[\ln(hd)]-1.464)}]$ $(e^{(0.9422[\ln(hd)]-1.7)}) (0.96)$	--
Iron, <i>dissolved</i>	1,000	--	--
Lead, <i>dissolved</i>	$(e^{(1.273[\ln(hd)]-4.703)}) (cf) 3$	$(e^{(1.273[\ln(hd)]-1.46)}) (cf) 3$	
Mercury, <i>total</i>	[0-012] 0.77	[2-4] 1.4	[146] 51 ng/L
Nickel, <i>dissolved</i>	$[e^{(0.846[\ln(hd)]+0.0584)}]$ $(e^{(0.846[\ln(hd)]+0.0584)}) (0.997)$	$[e^{(0.846[\ln(hd)]+2.255)}]$ $(e^{(0.846[\ln(hd)]+2.255)}) (0.998)$	[100 $\mu\text{g/L}$ ] 4.6 mg/L
Selenium, <i>total recoverable</i>	[35] 5	[260] 20	-- 11 mg/L
Silver, <i>dissolved</i>	[0-12]	$[e^{(1.72[\ln(hd)]-6.6825)}]$ $(e^{(1.72[\ln(hd)]-6.6825)}) (0.85)$	--
Thallium, <i>dissolved</i>	[40+]	[1,400+]	[40] 6.3 $\mu\text{g/L}$

<sup>3</sup> The hardness-dependent formulae for lead must be multiplied by a conversion factor (cf) to be expressed as dissolved values. The CV for both the chronic and the acute criterion is  $CV = 1.46203 - \ln(\text{hardness})/(0.145712)$

APPENDIX II. Toxic Substances..

<u>TRACE ELEMENTS, MAJOR METALS AND METALLOIDS</u>			
FRESH WATER AQUATIC LIFE CRITERIA			HUMAN HEALTH CRITERIA <sup>1</sup> (Based on fish consumption ONLY)
<u>SUBSTANCE</u>	<u>CHRONIC TOXICITY</u> (μg/L) (e) <sup>2</sup>	<u>ACUTE TOXICITY</u> (μg/L) (e) <sup>2</sup>	<u>units / Liter</u> NOT TO EXCEED
Zinc, <u>dissolved</u>	$[e^{(0.8473[\ln\{hd\}]-0.7614)}]$ $(e^{(0.8473[\ln\{hd\}]+0.884)})(0.986)$	$[e^{(0.8473[\ln\{hd\}]+0.8604)}]$ $(e^{(0.8473[\ln\{hd\}]+0.8618)})(0.978)$	--

<u>Non-Metallic Inorganics</u>			
FRESH WATER AQUATIC LIFE CRITERIA			HUMAN HEALTH CRITERIA <sup>1</sup> (Based on fish consumption ONLY)
<u>SUBSTANCE</u>	<u>CHRONIC TOXICITY</u> (μg/L) (e) <sup>2</sup>	<u>ACUTE TOXICITY</u> (μg/L) (e) <sup>2</sup>	<u>units / Liter</u> NOT TO EXCEED
Chlorine, <u>total residual</u>	11	19	
Cyanide, <u>amenable to chlorination</u>	5.2	22	<u>220 mg/L</u>
Sulfide, hydrogen	2.0	--	--

APPENDIX II. Toxic Substances..

<b>ORGANOCHLORINE PESTICIDES AND POLYCHLORINATED BIPHENYLS</b>			
<b>FRESH WATER AQUATIC LIFE CRITERIA</b>			<b>HUMAN HEALTH CRITERIA <sup>1</sup></b> (Based on fish consumption ONLY)
<b>SUBSTANCE</b>	<b>CHRONIC TOXICITY (µg/L) <sup>1e</sup> 2</b>	<b>ACUTE TOXICITY (µg/L) <sup>1e</sup> 2</b>	<b>units / Liter NOT TO EXCEED</b>
[Aldrin]	--	[3-8]	[0.079 ng/L]
Chlordane	0.0043	2.4	[0.40] <u>2.2 ng/L</u>
[DDE] <u>DDD</u>	--	[0.067]	<u>0.84 ng/L</u>
DDE	--	[1,050+]	<u>0.59 ng/L</u>
DDT	0.001	1.1	[0.024] <u>0.59 ng/L</u>
[Dieldrin]	[0.0019]	[2-5]	[0.076 ng/L]
[Endrin]	[0.0023]	[0.18]	--
[Heptachlor]	[0.0038]	[0.52]	[0.29 ng/L]
Hexachlorobenzene	--	--	[0.74] <u>0.77 ng/L</u>
[alpha-Hexachlorocyclohexane]	--	--	[31 ng/L]
[beta-Hexachlorocyclohexane]	--	--	<u>54.7 ng/L</u>
Gamma-Hexachloro-cyclohexane (Lindane)	[0.08]	[2-8] <u>0.95</u>	<u>63 ng/L</u>
[Methoxychlor]	[0.03]	--	--



APPENDIX II. Toxic Substances..

<u>ORGANOCHLORINE PESTICIDES AND POLYCHLORINATED BIPHENYLS (CONTINUED)</u>			
FRESH WATER AQUATIC LIFE CRITERIA			HUMAN HEALTH CRITERIA <sup>1</sup> (Based on fish consumption ONLY)
<u>SUBSTANCE</u>	<u>CHRONIC TOXICITY</u> (µg/L) (e) <sup>2</sup>	<u>ACUTE TOXICITY</u> (µg/L) (e) <sup>2</sup>	<u>units / Liter</u> NOT TO EXCEED
[Mirex]	[0.001]	--	--
Polychlorinated biphenyls (total PCBs)	0.014	[2.0]	[0.079] <u>0.17</u> ng/L
[Toxaphene]	[0.0002]	[0.73]	--

<u>ORGANIC CONTAMINATES</u>			
FRESH WATER AQUATIC LIFE CRITERIA			HUMAN HEALTH CRITERIA <sup>1</sup> (Based on fish consumption ONLY)
<u>SUBSTANCE</u>	<u>CHRONIC TOXICITY</u> (µg/L) (e) <sup>2</sup>	<u>ACUTE TOXICITY</u> (µg/L) (e) <sup>2</sup>	<u>units / Liter</u> NOT TO EXCEED
[Acenaphthene]	[520+]	[1700+]	--
[Acrolein]	[21+]	[68+]	[780 µg/L]
[Acrlonitrile]	[2,600+]	[7,550+]	[0.65] µg/L
[Benzene]	--	[5,300 <sup>+</sup> ]	[40 µg/L]
[Benzidine]	--	[2,500 <sup>-</sup> ]	[0.53 ng/L]

## APPENDIX II. Toxic Substances..

<u>ORGANIC CONTAMINATES (CONTINUED)</u>			
FRESH WATER AQUATIC LIFE CRITERIA			HUMAN HEALTH CRITERIA <sup>1</sup> (Based on fish consumption ONLY)
<u>SUBSTANCE</u>	<u>CHRONIC TOXICITY</u> ( $\mu\text{g/L}$ ) <sup>1c</sup> 2	<u>ACUTE TOXICITY</u> ( $\mu\text{g/L}$ ) <sup>1c</sup> 2	<u>units / Liter</u> NOT TO EXCEED
[Benzene hexachloride]	--	[100]	--
[Carbon tetrachloride]	--	[35,200]	[6.94 $\mu\text{g/L}$ ]
[Chlorinated benzenes]	[50]	[250]	--
[Chlorinated naphthalenes]	--	[1,600]	--
[Chloroalkyl ethers]	--	[238,000]	--
[Bis(2-Chloroethyl) ether ]	--	--	[1.36 $\mu\text{g/L}$ ]
Chloroform	[1,240]	[28,900]	[15.7] 470 $\mu\text{g/L}$
[Bis(2-Chloroisopropyl) ether ]	--	--	[4.36 $\text{mg/L}$ ]
[Bis-Chloromethyl ether ]	--	--	[0.00184 $\mu\text{g/L}$ ]
[2-Chlorophenol]	[2,000]	[4,380]	--
Chlorpyrifos	0.041	0.083	--
[3-methyl-4-chlorophenol]	--	[30]	--
[Demeton]	[0.1]	--	--

APPENDIX II. Toxic Substances..

<i>ORGANIC CONTAMINATES (CONTINUED)</i>			
FRESH WATER AQUATIC LIFE CRITERIA			HUMAN HEALTH CRITERIA <sup>1</sup> (Based on fish consumption ONLY)
SUBSTANCE	CHRONIC TOXICITY ( $\mu\text{g/L}$ ) <sup>(c) 2</sup>	ACUTE TOXICITY ( $\mu\text{g/L}$ ) <sup>(c) 2</sup>	units / Liter NOT TO EXCEED
[Di-n-butylphthalate]	--	--	[154 mg/L]
[Dichlorobenzenes]	[763 <sup>7</sup> ]	[1,120 <sup>7</sup> ]	[2.6 mg/L]
[3,3'-Dichlorobenzidine]	--	--	[0.02 $\mu\text{g/L}$ ]
[1,2-Dichloroethane]	[20,000 <sup>7</sup> ]	[110,000 <sup>7</sup> ]	[243 $\mu\text{g/L}$ ]
[Dichloroethylenes]	--	[11,600 <sup>7</sup> ]	[1.85 $\mu\text{g/L}$ ]
[2,4-Dichlorophenol]	[365 <sup>7</sup> ]	[2,020 <sup>7</sup> ]	--
[1,2-Dichloropropane]	[5,700 <sup>7</sup> ]	[23,000 <sup>7</sup> ]	--
[1,3-Dichloropropene]	[244 <sup>7</sup> ]	[6,060 <sup>7</sup> ]	[14.1 mg/L]
[Diethyl Phthalate]	--	--	[1.8 g/L]
[2,4-Dimethylphenol]	--	[2,120 <sup>7</sup> ]	--
[Dimethyl-Phthalate]	--	--	[2.9 g]
[2,4-Dinitrotoluene]	--	--	[9.1 $\mu\text{g}$ ]

APPENDIX II. Toxic Substances..

<b><u>ORGANIC CONTAMINATES (CONTINUED)</u></b>			
<b>FRESH WATER AQUATIC LIFE CRITERIA</b>			<b>HUMAN HEALTH CRITERIA <sup>1</sup></b> (Based on fish consumption ONLY)
<b><u>SUBSTANCE</u></b>	<b><u>CHRONIC TOXICITY</u></b> ( $\mu\text{g/L}$ ) <sup>(c) 2</sup>	<b><u>ACUTE TOXICITY</u></b> ( $\mu\text{g/L}$ ) <sup>(c) 2</sup>	<b><u>Units / Liter</u></b> <b>NOT TO EXCEED</b>
[2,4-Dinitrotoluene]	[230 <sup>7</sup> ]	[330 <sup>7</sup> ]	--
[2,4-Dinitrophenol]	--	--	[14.3 mg/L]
[2,4-Dinitro-8-cresol]	--	--	[765 $\mu\text{g/L}$ ]
[Dioxin (2,3,7,8-TCDD)]	[0.00001 <sup>7</sup> ]	[0.01 <sup>7</sup> ]	[0.000014 ng/L]
[Diphenylhydrazine]	--	--	[0.56 $\mu\text{g/L}$ ]
Bis-2-ethylhexyl Phthalate	--	--	[50 mg/L] <u>5.9 <math>\mu\text{g/L}</math></u>
[Endosulfans]	[0.056]	[0.22]	[159 $\mu\text{g/L}$ ]
Ethylbenzene	--	[32,000 <sup>7</sup> ]	[3.28] <u>22 mg/L</u>
Fluoranthene	--	[3,980 <sup>7</sup> ]	[54] <u>370 <math>\mu\text{g/L}</math></u>
[Guthion]	[0.01]	--	--
[Haloethers]	[122 <sup>7</sup> ]	[360 <sup>7</sup> ]	--
[Halomethanes]	--	[11,000 <sup>7</sup> ]	[15.7 $\mu\text{g/L}$ ]



APPENDIX II. Toxic Substances..

<b><u>ORGANIC CONTAMINATES (CONTINUED)</u></b>			
<b>FRESH WATER AQUATIC LIFE CRITERIA</b>			<b>HUMAN HEALTH CRITERIA <sup>1</sup></b> (Based on fish consumption ONLY)
<b><u>SUBSTANCE</u></b>	<b><u>CHRONIC TOXICITY</u></b> (µg/L) <sup>(e) 2</sup>	<b><u>ACUTE TOXICITY</u></b> (µg/L) <sup>(e) 2</sup>	<b><u>units / Liter</u></b> <b>NOT TO EXCEED</b>
[Hexachloroethane]	[540 <sup>7</sup> ]	[980 <sup>7</sup> ]	[8.74 µg/L]
Hexachlorobenzene	- -	- -	[0.74] 0.77 ng/L
[Hexachlorobutadiene]	[9.3 <sup>7</sup> ]	[90 <sup>7</sup> ]	[50 µg/L]
[Hexachlorocyclopentadiene]	[5.2 <sup>7</sup> ]	[7 <sup>7</sup> ]	- -
[Isophorone]	- -	[117,000 <sup>7</sup> ]	[520 mg/L]
[Malathion]	[0.1]	- -	- -
[Naphthalene]	[620 <sup>7</sup> ]	[2,300 <sup>7</sup> ]	- -
[Nitrobenzene]	- -	[27,000 <sup>7</sup> ]	- -
[2-, 4-Nitrophenols]	[150 <sup>7</sup> ]	[230 <sup>7</sup> ]	- -
[Nitrosamines]	- -	[5,850 <sup>7</sup> ]	[1.24 µg/L]
[N-Nitrosodibutylamine]	- -	- -	[587 ng/L]
[N-Nitrosodichethylamine]	- -	- -	[1.24 µg/L]
[N-Nitrosodimethylamine]	- -	- -	[16.0 µg/L]
[N-Nitrosodiphenylamine]	- -	- -	[16.1 µg/L]

APPENDIX II. Toxic Substances..

<b>ORGANIC CONTAMINATES (CONTINUED)</b>			
<b>FRESH WATER AQUATIC LIFE CRITERIA</b>			<b>HUMAN HEALTH CRITERIA <sup>1</sup></b> (Based on fish consumption ONLY)
<b>SUBSTANCE</b>	<b>CHRONIC TOXICITY</b> ( $\mu\text{g/L}$ ) <sup>(c) 2</sup>	<b>ACUTE TOXICITY</b> ( $\mu\text{g/L}$ ) <sup>(c) 2</sup>	<b>units / Liter</b> <b>NOT TO EXCEED</b>
[N-Nitrosopyrrolidine]	--	--	[91.9 $\mu\text{g/L}$ ]
[Parathion]	[0.013]	[0.065]	--
[Pentachlorinated ethanes]	[1,100 <sup>+</sup> ]	[7,240 <sup>+</sup> ]	--
[Pentachlorobenzene]	--	--	[85 $\mu\text{g/L}$ ]
[Pentachlorophenol]	$[e^{(1.005(\text{pH})-5.29)}]$	$[e^{(1.005(\text{pH})-4.83)}]$	--
Phenol	[2,560 <sup>+</sup> ]	[10,200 <sup>+</sup> ]	4.6 g/L
[Phthalate esters]	[3 <sup>+</sup> ]	[940 <sup>+</sup> ]	--
[Polynuclear aromatic hydrocarbons]	--	--	[31.1 ng/L]
[1,1,2,2-Tetrachloroethane]	--	[9,320 <sup>+</sup> ]	--
[1,2,4,5-Tetrachlorobenzene]	--	--	[48 $\mu\text{g/L}$ ]
[1,1,2,2-Tetrachloroethane]	[2,400 <sup>+</sup> ]	--	[10.7 $\mu\text{g/L}$ ]
[Tetrachloroethylene]	[840 <sup>+</sup> ]	[5,280 <sup>+</sup> ]	[8.85 $\mu\text{g/L}$ ]
Toluene	--	[17,500 <sup>+</sup> ]	[424] 200 mg/L

APPENDIX II. Toxic Substances..

<b><u>ORGANIC CONTAMINATES (CONTINUED)</u></b>			
<b>FRESH WATER AQUATIC LIFE CRITERIA</b>			<b>HUMAN HEALTH CRITERIA <sup>1</sup></b> (Based on fish consumption ONLY)
<b><u>SUBSTANCE</u></b>	<b><u>CHRONIC TOXICITY</u></b> ( $\mu\text{g/L}$ ) <sup>(c) 2</sup>	<b><u>ACUTE TOXICITY</u></b> ( $\mu\text{g/L}$ ) <sup>(c) 2</sup>	<b><u>units / Liter</u></b> NOT TO EXCEED
[1,1,1-Trichloroethane]	--	--	[1.03-g/L]
[1,1,2-Trichloroethane]	[9,400*]	--	[41.8- $\mu\text{g/L}$ ]
[Trichloroethylene]	[21,900*]	[45,000*]	[80.7- $\mu\text{g/L}$ ]
[2,4,6-Trichlorophenol]	[970+]	--	[3.6- $\mu\text{g/L}$ ]
[Vinyl chloride]	--	--	[525- $\mu\text{g/L}$ ]

APPENDIX III.

<b><i>TOTAL AMMONIA, CHRONIC CRITERIA, (mg/L)</i></b>										
<b>pH</b>	<b>TEMPERATURE °C</b>									
	<b>0</b>	<b>14</b>	<b>16</b>	<b>18</b>	<b>20</b>	<b>22</b>	<b>24</b>	<b>26</b>	<b>28</b>	<b>30</b>
6.5	6.67	6.67	6.06	5.33	4.68	4.12	3.62	3.18	2.80	2.46
6.6	6.57	6.57	5.97	5.25	4.61	4.05	3.56	3.13	2.75	2.42
6.7	6.44	6.44	5.86	5.15	4.52	3.98	3.50	3.07	2.70	2.37
6.8	6.29	6.29	5.72	5.03	4.42	3.89	3.42	3.00	2.64	2.32
6.9	6.12	6.12	5.56	4.89	4.30	3.78	3.32	2.92	2.57	2.25
7.0	5.91	5.91	5.37	4.72	4.15	3.65	3.21	2.82	2.48	2.18
7.1	5.67	5.67	5.15	4.53	3.98	3.50	3.08	2.70	2.38	2.09
7.2	5.39	5.39	4.90	4.31	3.78	3.33	2.92	2.57	2.26	1.99
7.3	5.08	5.08	4.61	4.06	3.57	3.13	2.76	2.42	2.13	1.87
7.4	4.73	4.73	4.30	3.78	3.32	2.92	2.57	2.26	1.98	1.74
7.5	4.36	4.36	3.97	3.49	3.06	2.69	2.37	2.08	1.83	1.61
7.6	3.98	3.98	3.61	3.18	2.79	2.45	2.16	1.90	1.67	1.47
7.7	3.58	3.58	3.25	2.86	2.51	2.21	1.94	1.71	1.50	1.32
7.8	3.18	3.18	2.98	2.54	2.23	1.96	1.73	1.52	1.33	1.17
7.9	2.80	2.80	2.54	2.24	1.96	1.73	1.52	1.33	1.17	1.03
8.0	2.43	2.43	2.21	1.94	1.71	1.50	1.32	1.16	1.02	0.897
8.1	2.10	2.10	1.91	1.68	1.47	1.29	1.14	1.00	0.879	0.773
8.2	1.79	1.79	1.63	1.43	1.26	1.11	0.973	0.855	0.752	0.661
8.3	1.52	1.52	1.39	1.22	1.07	0.941	0.827	0.727	0.639	0.562
8.4	1.29	1.29	1.17	1.03	0.906	0.796	0.700	0.615	0.541	0.475
8.5	1.09	1.09	0.990	0.870	0.765	0.672	0.591	0.520	0.457	0.401
8.6	0.920	0.920	0.836	0.735	0.646	0.568	0.499	0.439	0.386	0.339
8.7	0.778	0.778	0.707	0.622	0.547	0.480	0.422	0.371	0.326	0.287
8.8	0.661	0.661	0.601	0.528	0.464	0.408	0.359	0.315	0.277	0.244
8.9	0.565	0.565	0.513	0.451	0.397	0.349	0.306	0.269	0.237	0.208
9.0	0.486	0.486	0.442	0.389	0.342	0.300	0.264	0.232	0.204	0.179

Chronic ammonia criteria shall not be exceeded more than once in any three year period.



<b><i>TOTAL AMMONIA, ACUTE CRITERIA, (mg/L)</i></b>		
<b>pH</b>	<b>COLDWATER DESIGNATED WATER BODY</b>	<b>WARMWATER DESIGNATED WATER BODY</b>
6.5	32.6	48.8
6.6	31.3	46.8
6.7	29.8	44.6
6.8	28.1	42.0
6.9	26.2	39.1
7.0	24.1	36.1
7.1	22.0	32.8
7.2	19.7	29.5
7.3	17.5	26.2
7.4	15.4	23.0
7.5	13.3	19.9
7.6	11.4	17.0
7.7	9.65	14.4
7.8	8.11	12.1
7.9	6.77	10.1
8.0	5.62	8.40
8.1	4.64	6.95
8.2	3.83	5.72
8.3	3.15	4.71
8.4	2.59	3.88
8.5	2.14	3.20
8.6	1.77	2.65
8.7	1.47	2.20
8.8	1.23	1.84
8.9	1.04	1.56
9.0	0.885	1.32

Acute ammonia criteria shall not be exceeded.